

Conclusions: In this audit, swab results did not alter any patient's treatment and nearly all reports were issued after the patient had been discharged. Recurrent abscesses do not appear to be linked to initial swab results.

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0705: ADHESIVE SMALL BOWEL OBSTRUCTION: TRENDS IN INCIDENCE, MANAGEMENT AND OUTCOMES OVER 15 YEARS

M. Abdelhalim^{1,*}, R. McLean², I. McCallum¹. ¹Sunderland Royal Hospital, Sunderland, UK; ²Queen Elizabeth Hospital, Gateshead, UK.

Aims: Small bowel obstruction in a patient who has previously undergone abdominal surgery is a common emergency presentation in general surgery. This study describes the changes in incidence, management and outcomes in adhesive small bowel obstruction (ASBO) over a 15 year period (2000–2014).

Methods: Data for all emergency admissions under a general surgeon were collected from regional trust information departments and analysed.

Results: 6,557 cases of ASBO were identified and divided into 3 time periods. Requirement for operative management has reduced from 54% to 40% to 29% over the time intervals ($p < 0.05$). Overall, patients requiring surgery were older than those who improved with conservative management (61.7 years compared to 56.1 years, $p < 0.05$). There was a significant reduction in length of stay (17.1 days, 14.9 days, 12.4 days) as well as inpatient mortality (11%, 8%, 4%) during the study period ($p < 0.05$).

Conclusions: There has been an increase in emergency admissions for ASBO over time, but operative management is required less often. Conservative management is more likely to be successful in younger patients. Overall outcomes as measured by length of stay and inpatient mortality improved during the study period. Advances in operative techniques and preoperative management could account for these positive results.

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0520: SURGICAL MANAGEMENT OF FISTULATING PERIANAL CROHN'S DISEASE – RESULTS OF A UK SURVEY

M. Lee^{1,*}, N. Heywood², P. Sagar⁴, S. Brown³, N. Fearnhead⁵. ¹South Yorkshire Surgical Research Group, Sheffield, UK; ²Northwest Research Collaborative, Manchester, UK; ³Sheffield Teaching Hospitals, Sheffield, UK; ⁴Leeds Teaching Hospitals, Leeds, UK; ⁵Addenbrookes Hospital, Cambridge, UK.

Aim: Fistulating perianal Crohn's disease (PCD) affects 20–50% of Crohn's patients. Despite advances in medical therapy, recurrence is frequent and there is significant impact on quality of life.

Method: A questionnaire was developed to assess current Consultant Colorectal surgeon practice in PCD and piloted at DDF 2015. The final version of the questionnaire was disseminated through the surgical trainee research collaboratives. Responses were uploaded onto the REDCAP online database.

Result: Collaborators from 21 centres collected 107 responses. In the acute setting, 38% always give antibiotics, with metronidazole preferred (81.5%). Incision and drainage (30%) or draining seton (35%) are preferred at first operation. Draining seton is preferred at first-planned EUA (61%). Cutting seton (86.1%), excision of tract (60.1%) and fistulotomy (37.9%) are avoided. IBD MDT was available to 85% of respondents, and 29% routinely discussed PCD patients. Multimodal therapy is practiced by 92% of respondents. Preferred 'definitive' procedures were removal of seton (68%), fistulotomy (52%), mucosal advancement flap (38%) and fistula plug (32%).

Conclusion: A collaborative approach demonstrates wide variation in practice across UK centres. This information will inform a consensus exercise for UK practice as well as feasibility for a planned surgical trial.

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0888: ACUTE DIVERTICULITIS: RISK OF READMISSION AND EMERGENCY SURGERY FOLLOWING AN ADMISSION FOR ACUTE DIVERTICULITIS

C. El-Sayed^{1,*}, S. Radley², J. Mytton², F. Evison², S. Ward¹. ¹University Hospitals Coventry and Warwickshire, West Midlands, UK; ²University Hospitals Birmingham, West Midlands, UK.

Aim: Diverticular disease is accountable for significant morbidity and mortality. Current guidelines suggest elective resection should be individualised to each patient. We aimed to identify risk factors associated with risk of readmission.

Method: This study was conducted between April 2006 and March 2011 identifying 76,499 patients over the age of 18 with acute diverticulitis who were followed up for 4 years. Exclusion criteria included previous diagnosis of diverticulitis in HES data, colorectal cancer, GI bleed, previous colectomy, undergone surgery or died on index admission. 65,162 patients were included in the study.

Result: This is the largest study using HES data in the UK. A mixed effects logistic regression model was used for analysis. The re-admission rate equaled 11.55%. 1.16% of patients were readmitted within 30 days. An inverse relationship between age and risk of re-admission was found. Females were 46% more likely to be re-admitted ($p < 0.001$). Complicated diverticulitis increased the risk of re-admission (OR 1.5 (0.95–1.12) $p < 0.001$). Alcohol consumption also increased the risk of re-admission (OR 1.26 (1.17–1.35) p -value < 0.001).

Conclusions: Risk of re-admission with acute diverticulitis decreases with older age, male gender and uncomplicated diverticulitis. Elective surgery should be offered based on the individual's risk factors for readmission.

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0437: DEFINING A 3D BIOMIMETIC COLORECTAL TUMOUROID

E. Losif^{*}, K. Stamati, A. Nyga, B. Ramesh, M. Loizidou. University College London, UK.

Aim: Colorectal cancer is a worldwide healthcare problem. Better understanding of pathogenesis and relevant models to study drug action could improve therapies. There has been an increase in 3D in-vitro models, however most lack tissue density. We aimed to create and characterize a 3D in-vitro cancer model, comprising cancer and stromal cells in a dense matrix.

Methods: CRC cells (HT29) and patient fibroblasts (CRC-associated fibroblasts-CRF; normal colon fibroblasts-CF) were used. High density compressed tumouroids (9.6%, collagen 3D-cultures) were manufactured by mixing different ratios of HT29:fibroblasts. The following were measured: cell viability for establishing seeding density and optimal HT29:fibroblast ratio; size measurements of cancer spheroids; biomarker (TGF β , VEGF) expression (ELISA); cell/spheroid morphology (cytokeratin-20, e-cadherin, vimentin, α -SMA immunofluorescence).

Results: Maximum seeding density for 7-day proliferation was 75,000 cells/(1.3ml)gel. Tumouroids with HT29:CF:CRF ratio(1:2) had significantly increased ($p < 0.05$) metabolic activity. Cells aggregated in spheroids(epithelial) and stained for cytokeratin-20 and e-cadherin or distributed throughout(fibroblasts) and stained for vimentin (mesenchymal phenotype). Co-culture spheroid diameter and surface area was significantly ($p < 0.05$) higher than HT29 monocultures. Biomarker release was higher in co-cultures (1:2) compared to HT29 monocultures ($P = 0.008$) on day 3.

Conclusions: High density tumouroids provide a biomimetic platform that resembles the tumor microenvironment, suitable for assessing tumor growth and potentially therapeutic responses.

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